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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,841	12/31/2001	Toshihiko Yamashita	YAMA3020/FJD	8728
23364	7590	04/07/2006	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			BOYD, JENNIFER A	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Cn

Office Action Summary	Application No. 09/926,841	Applicant(s) YAMASHITA ET AL.	
	Examiner Jennifer A. Boyd	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed January 17, 2006, have been entered and have been carefully considered. Claims 5 – 6 are amended, claims 1 – 4 and 7 – 8 are cancelled and claims 5 – 6 are pending. In view of Applicant's amendment requiring that the concave and convex portions are opposite to and "adjacent to" each other and that the convex portions are "substantially rectangular shaped", the Examiner withdraws all previously set forth rejections as detailed in Office Action dated June 9, 2005. After another search was conducted, additional prior art has been found which renders in the invention as currently claimed unpatentable for reasons herein below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 5 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scurlock (US 2,481,046) in view of Borgford (US 3,914,486).

Scurlock is directed to an embossed panel structure (column 1, lines 1 – 10).

As to claims 5 – 6, Scurlock teaches a composite panel having a plurality of square indentations in the form of hollow truncated pyramids arranged in two groups extending in opposite directions from a medial surface of the sheet, all of the indentations being similarly oriented with respect to directions in planes parallel to the medial plane (column 7, lines 10 –

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25). See Figures. Scurlock teaches that it is contemplated for the core sheet to have an original thickness ranging from a few thousandths of an inch to a thickness of several hundredths of an inch in the case of panels formed by pressing or stamping and in the case of cast or molded core members, the thickness will ordinarily be greater. Scurlock notes that the range of thickness is not limited but is mentioned solely for the purpose of invention and would depend in any particular instance upon various practical considerations, among which are the nature and physical characteristics of the material used (column 6, lines 20 – 40). The Figures show Applicant's claimed substantially rectangular shaped plateau.

Scurlock fails to teach that the plateau has an opening.

Borgford is directed to shear form structures (Title), which are stamped or formed from any desired material and consists of a plurality of three-sided half cubes interconnected together by bases thereof (Abstract). The apices of the half cubes are flattened and may be apertured for weight purposes (Abstract). See Figure 1.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to aperture the rectangular plateaus of Scurlock as suggested by Borgford motivated by the desire to create a construction panel with decreased weight.

Scurlock in view of Borgford discloses the claimed invention except for thickness is between 10 – 50 micrometers, longitudinal length of the openings is 365 – 510 microns, the lateral length of the openings being 360 – 510 micrometers and the opening ratio is between 45 – 60%. Absent a showing of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to create a substrate with a thickness

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of 10 – 50 micrometers, an opening length of 360 to 510 micrometers and an opening ratio between 45 – 60% since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454 USPQ 233 (CCPA 1955). In the present invention, one would have been motivated to optimize the thickness, opening length and opening ratio in order to create substrate with an optimal level of porosity and flexibility.

4. Claims 5 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ewald (US 2,441,476) in view of Borgford (US 3,914,486).

Ewald is directed to a reinforced structural sheet (Title).

As to claims 5 – 6, Ewald teaches a pattern of alternate, staggered, substantially parallelogram shaped and flat topped elevations and depressions embossed on both sides of a median plane (column 3, lines 5 – 15). Ewald notes that the sheet is produced of sufficient thickness for the particular purposes required, it being understood that any thickness metal can be processed within the limits of the press or embossing machinery used (column 3, lines 1 – 15). See Figures. The Figures show Applicant's claimed substantially rectangular shaped plateau.

Ewald fails to teach that the plateau has an opening.

Borgford is directed to shear form structures (Title), which are stamped or formed from any desired material and consists of a plurality of three-sided half cubes interconnected together by bases thereof (Abstract). The apices of the half cubes are flattened and may be apertured for weight purposes (Abstract). See Figure 1.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to aperture the rectangular plateaus of Scurlock as suggested by Borgford motivated by the desire to create a construction panel with decreased weight.

Ewald in view of Borgford discloses the claimed invention except for thickness is between 10 – 50 micrometers, longitudinal length of the openings is 365 – 510 microns, the lateral length of the openings being 360 – 510 micrometers and the opening ratio is between 45 – 60%. Absent a showing of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to create a substrate with a thickness of 10 – 50 micrometers, an opening length of 360 to 510 micrometers and an opening ratio between 45 – 60% since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454 USPQ 233 (CCPA 1955). In the present invention, one would have been motivated to optimize the thickness, opening length and opening ratio in order to create substrate with an optimal level of porosity and flexibility.

Response to Arguments

5. Applicant's arguments with respect to claims 5 - 6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

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6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Boyd
March 29, 2006



TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700